

Columbia Lake Ecological Reserve #20

Warden Trip Report, Sept. 2022



Ecological Reserve Warden Trip Report

ER Name: Columbia Lake Ecological Reserve, **Ecological Reserve #:** 20

Trip Date: September 10, 2022 (only day a BC Parks staff member available for site visit); Report finalized September 24, 2022.

Warden Names: Jenny Feick and Ian Hatter, driven and assisted by Trevor Kinley of Invermere

BC Park Staff: Ranger Liza Pegura, East Kootenay North

No. of volunteer hours logged: 2.5 hours at the ER, plus 2 hours travel time to/from Invermere. This does not include time spent getting to/from and visiting Mt Sabine ER, which was done the same day.

Extent of the ecological reserve visited, or tour route

- Ranger Liza Pegura drove the BC Parks truck and resource person Trevor Kinley, who had been to the ER before when he was doing bobcat research, drove his 4WD Toyota Tacoma truck up the access road.
- Explored lower area of the ER adjacent to the access road with Ranger Pegura, who pointed out the patches of giant helleborine orchids (also known as stream orchids) and other areas where calcareous-loving plants live in the wet sites.
- Ian, Jenny and Trevor explored the upper portions of the ER on foot on their own following the site visit to Mount Sabine ER.
- It was fairly easy walking through open forest and along existing informal paths and game trails.



Resource person Trevor Kinley and ER Warden Ian Hatter near north-eastern boundary of the Columbia Lake ER.

Purpose and Objectives for This Site Visit

Purpose: Collaborate and learn about the Columbia Lake ER and its values from one another.

Objectives:

- Locate the Columbia Lake ER (UTM coordinates);
- Assess ease of access for rangers' vehicle;
- Assess if the boundaries of the ER are adequately identified/marked, and if not, what needs to be done to better demarcate the boundaries;
- Assess the basic condition of the ER and identify any obvious damage and threats;
- Record natural history observations (evidence of wildlife, and vegetation, especially the species/plant communities related to the purpose of each ER), including posting images on iNaturalist of key plant species; and
- Discuss potential ideas for research, inventory and monitoring activities for 2023.

Specific Expectations for BC Parks – assist new ER rangers in finding the boundaries of the ERs, assess ease of access, and work with them on the other objectives



Ranger Lisa Pegura, resource person Trevor Kinley and ER Ranger Ian Hatter on access road beside south boundary of Columbia Lake ER.

Plant and Animal Species Observed

Forest Composition:

- Douglas-fir–pinegrass is extensive (pictured on the right).
- A Douglas-fir-snowberry association occurs in moister sites.
- Douglas-fir-bluebunch wheatgrass-rabbitbush community in the driest situations in the upper part of the ER above the limestone cliffs.
- Well-spaced Douglas-fir trees cover most of the ER.
- Ponderosa pine, lodgepole pine, limber pine, and trembling aspen are also present.



Shrub layer:

- Rocky Mountain, common and creeping junipers are common with fleshy cones present.
- Western snowberry, buffalo-berry bushes are present but there are very few berries.
- Prickly rose has rose hips (pictured on right).
- Rubber rabbit-brush (pictured below on left) and shrubby cinquefoil (pictured below on right) still in bloom.



Ground covers:

- Pinegrass, bluebunch wheatgrass, bearberry and bunchberry (with dry berries) were common.
- Late season bloomers included smooth blue aster, white prairie aster, North American harebell. (pictured below on left), elegant goldenrod (pictured below centre), and northern goldenrod.



- Many plants were in seed or identifiable from their dried leaves (e.g., Giant helleborine orchids pictured above right, Western meadow-rue, bush penstemmon, mountain death camas).
- Fee's lip ferns were growing amid the limestone cliffs (pictures below on left); several looked dried up.
- Lichens included wolf lichen on Douglas-fir branches and candle flame lichen on limestone cliffs (pictured below on right).



Animal Species Observed or Evidence of Wildlife

- **Mammals:** found Elk, deer, and bighorn sheep pellets (elk pellets pictured below on top left); heard a red squirrel.
- **Birds:** saw a falcon (possibly a Peregrine falcon), a turkey vulture, and dark-eyed junco; heard American robins, red-breasted nuthatches, dark-eyed juncos, and mountain chickadees.
- **Arthropods:** Mormon fritillary (pictured below bottom left), turfgrass ants (evidence pictured below on top right).



Cultural Resources

- Potential areas where stone tools may have been made (see above picture on bottom right). This would require authentication by an experienced archaeologist like Wayne Choquette) and should be done in collaboration with the Ktunaxa First Nation.

Public Access Issues

- Access to the lower portion of this ER is along a rough 2WD gravel road accessible with the AWD 2007 Subaru Forrester owned by the ER rangers
- However, due to deep ruts, rocks, steep grades, the ER rangers would not be able to access the upper portion of this ER using their own vehicle. This will require parking their vehicle on the lower section of the road and walking up the steeper areas (see picture below on left).
- High clearance 4WD trucks, ATVs and ORVs can drive near the ER boundary; and a trail biker had obviously accessed the upper area of the ER (above the cliffs) using an old trail, based on tracks in the fine grained silt (pictured below on right).
- Since the upper perimeter of this ER is unmarked, it is unclear where it is exactly, so people may not know they are trespassing on an ER.



Signage Issues

- The signs that have been placed adjacent to the lower access roads are clear and current.



- There are no signs or markers of any kind along the actual upper boundary of this ER.
- Found a survey marker pin (see below) but not sure if this relates to a formal survey of the ER.



Maintenance Issues

- Deteriorating access road conditions

Visitor Activities

- People have had a campfire in the dry grassy area above the limestone cliffs at the end of the trail used by the trail biker (see evidence pictured below).



Warden Activities

- Made a short visit to the lower (south-western) end of the ER to see the seepage areas with the patches of giant helleborine (stream orchid), and tufa deposits;
- Identified an alien invasive plant species, white sweet clover. Ranger Pegura removed the plant. She noted there is also sow thistle north of the giant helleborine patch.
- Explored the north-eastern part of the ER on foot; and
- Recorded observations of plant and animal species, took pictures, and posted them to iNaturalist.

Wardens' Proposals or Suggestions

- Find out if the boundary (see map below) has ever been officially surveyed. Are there survey pins? Who installed the survey pin found on Sept. 10, 2022 and what does it signify? If not, a survey should be conducted.
- Find out who (if anyone) is responsible for road maintenance in the area.
- Clearly mark the upper (north-east) boundary of the ER with signs people know when they enter it and what activities are allowed/not permitted.
- Survey for presence of alien invasive plants near areas adjacent to access roads. Develop and implement a plan to remove alien invasive plants.
- Investigate adjacent Crown land in the East Side Columbia Lake Wildlife Management Area for ecological and biological values.
- Assess ongoing health of limber pine trees (e.g. evidence of white pine blister rust), as follow up to the "Columbia Lake Ecological Reserve Limber Pine Survey" prepared by Randy Moody.
- Inventory Indigenous cultural and archaeological resources (location and significance) in collaboration with the Ktunaxa First Nation.
- Set up vegetation plots to monitor change in species composition with climate change, including the limestone cliffs (see pictures on top and bottom left on next page) and the calcicolous vegetation growing in the wet sites along the spring-fed stream on the west side of the ER (see picture on bottom right on next page). Note: BC Parks staff already monitors the giant helleborine patches.
- Consider setting up a wildlife camera to document wildlife use of the area.
- Consider using a drone for monitoring the less accessible portions of this ER.





Appendix A: Scientific Names for Species Mentioned in Warden Trip Report to Columbia Lake ER on Sept. 10, 2022 (in alphabetical order)

Animals

Arthropods

Mormon fritillary, (*Speyeria mormonia*)
Turfgrass ant, (*Lasius neoniger*)

Birds

American robin, (*Turdus migratorius*)
Dark-eyed junco (*Junco hyemalis*)
Mountain chickadee, (*Poecile gambeli*)
Peregrine falcon, (*Falco peregrinus*)
Red-breasted nuthatch, (*Sitta canadensis*)
Turkey vulture (*Cathartes aura*)

Mammals

American red squirrel, (*Tamiasciurus hudsonicus*)
Rocky Mountain bighorn sheep, (*Ovis canadensis* ssp. *canadensis*)
Rocky Mountain elk, (*Cervus canadensis* ssp. *canadensis*)
Rocky Mountain mule deer, (*Odocoileus hemionus* ssp. *hemionus*)

Lichens

Wolf lichen, (*Letharia vulpina*)

Plants¹

Bearberry, (<i>Arctostaphylos uva-ursi</i>)	Lodgepole pine, (<i>Pinus contorta</i> var. <i>latifolia</i>)
Smooth blue aster, (<i>Symphyotrichum leave</i>)	Mountain deathcamas, (<i>Anticlea elegans</i>)
Bluebunch wheatgrass, (<i>Pseudoroegneria spicata</i>)	North American harebell, (<i>Campanula alaskana</i>)
Buffaloberry, (<i>Shepherdia canadensis</i>)	Northern goldenrod, (<i>Solidago multiradiata</i>)
Bunchberry, (<i>Cornus canadensis</i>)	Pinegrass, (<i>Calamagrostis rubescens</i>)
Bush penstemon, (<i>Penstemon fruticosus</i>)	Prairie aster, (<i>Symphyotrichum turbinellum</i>)
Candleflame lichen, (<i>Candelaria concolor</i>)	Prickly rose, (<i>Rosa acicularis</i>)
Creeping juniper, (<i>Juniperus horizontalis</i>)	Rocky Mountain juniper, (<i>Juniperus scopulorum</i>)
Douglas fir, (<i>Pseudotsuga menziesii</i>)	Rubber rabbitbrush, (<i>Ericameria nauseosa</i>)
Common juniper, (<i>Juniperus communis</i>)	Shrubby cinquefoil, (<i>Dasiphora fruticosa</i>)
Elegant goldenrod, (<i>Solidago lepida</i>)	Trembling aspen, (<i>Populus tremuloides</i>)
Fee's lip fern, (<i>Myriopteris gracilis</i>) ¹	Western meadow-rue, (<i>Thalictrum occidentale</i>)
Giant helleborine or Stream orchid, (<i>Epipactis gigantea</i>)	Western snowberry, (<i>Symphoricarpos occidentalis</i>)
Limber pine, (<i>Pinus flexilis</i>)	White prairie aster, (<i>Symphyotrichum falcatum</i>)

Invasive Plants

Common sow-thistle (*Sonchus oleraceus*)

White sweet-clover (*Melilotus albus*)

¹ Of major significance in the Columbia Lake ER are calcicolous plants, or "calcicoles," which are commonly defined as plants found growing in soils rich in calcium carbonate. They can be found growing in wet sites along streams and on limestone cliffs. Giant helleborine (stream orchid) is an example of a calcicolous plant growing in a wet site (see picture below). Fee's lip fern is an example of a calcicolous plant growing in calcareous rock (limestone). We saw both species in the Columbia Lake ER on September 10, 2022.

